DOCUMENT RESUME

ED 260 385 CS 008 130

AUTHOR Cook, Nancy J.; Mottley, Reed R.
TITLE Predictors for Academic Achievement for College Freshman Football Players: An Analysis of Findings.
PUB DATE [84]
NOTE 24p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Athletes; College Freshmen; *Educational Research; Football; Grades (Scholastic); Graduation Requirements; Higher Education; *Performance Factors; *Predictor Variables; Racial Factors; Student Evaluation; Study Skills
IDENTIFIERS ACT Assessment; National Collegiate Athletic Association

ABSTRACT

Triggered by recent exposures of illiterate college athletes, the academic exploitation of athletes, and the manipulation of educational standards for athletes at all levels, the National Collegiate Athletic Association (NCAA) in January 1983 passed an academic requirements ruling for all Division I schools within the NCAA. "Proposition 48" established academic requirements for athletes attending or planning to attend all Division I colleges. In light of this ruling, a study was conducted to determine predictors for academic success for college football players. Subjects were 59 first semester freshmen, about equally divided by race, at a southern four-year NCAA institution. Subjects' ACT composite scores ranged from 9 to 26 and high school grade point averages from 1.38 to 4.00 on a 4.00 scale. All were considered football athletes based on prior assessment of their athletic abilities, although three had high school GPAs lower than the required 2.00 on a 4.00 scale, and so were not eligible for practice or play. Regressions were used to determine the best predictors for academic success defined as grade point average. Those predictors found most significant were race; the number of games in which the athlete performed; the number of semesters enrolled in a study improvement course; the ACT natural science, mathematics, and social science scores, and the number of semesters needed to prove proficiency in a developmental reading course. (HTH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED260385

BEST COPY AVAILABLE

Predictors for Academic Achievement for College Freshman Football Players: An Analysis of Findings

Nancy J. Cook and Dr. Reed R. Mottley
Department of Curriculum and Instruction
University of Southern Mississippi
Southern Station 5026
Hattiesburg, MS 39406-5026

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Nancy J. Cook
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Running Head: ACADEMIC PREDICTORS FOR ATHLETES

CS008130

Abstract

The purpose of this research was (1) to review recent rule changes in play eligibility by the NCAA for freshman student-athletes and (2) to determine the predictors for academic success for college freshman football players. As a result of the January 1983 meeting of the National Collegiate Athletic Association, new play eligibility rules, commonly referred to as "Proposition 48," were adopted. These rules, though not for all colleges or athletic programs, will inevitably have a large impact on collegiate athletics at all levels of competition. The subjects for this study were 59 college freshman football players from the years 1980 and 1983. Regression was used to determine the best predictors for academic success when defined as grade point average (GPA). Those predictors found most significant ($p<.05$) were race, the number of games in which the athlete performed, the number of semesters enrolled in a study improvement course, the ACT Natural Science score, the ACT Mathematics score, the number of semesters needed to prove proficiency in a developmental reading course, and the ACT Social Science score. These predictors do not parallel previous research on predictive academic success in

college.

Predictors for Academic Achievement for College Freshman Football Players: An Analysis of Findings

Triggered by recent exposures of illiterate college athletes, the academic exploitation of athletes, and the manipulation of educational standards for athletes at all levels, the National Collegiate Athletic Association (NCAA) passed in January 1983 an academic requirements ruling for all Division I schools within that association. "Proposition 48," the most controversial legislation in NCAA history, establishes academic requirements for athletes attending or planning to attend all Division I institutions of higher learning. These requirements pose potential research questions concerning (1) the factors that correlate with academic achievement of participants in collegiate athletics, (2) the educational provisions that can be made for these athletes to insure self-motivated academic success, and (3) how institutions might structure athletic programs to promote academic success for their participants. This study attempts to (1) review current research about the academic achievement of student-athletes and (2) identify predictors of academic success for the freshman football participant.

Review of Literature

Since the early release of A Nation at Risk (1983) by the National Commission on Excellence in Education, publicizing the poor quality of education in the United States, those that govern college athletics have also begun to scrutinize the academic standards of intercollegiate sports. As a result, the January 1983 meeting of the NCAA passed new rules on play eligibility for their 277 Division I schools. The new rules are commonly referred to as "Proposition 48" (Zingg, 1983; Ostro, 1984). The rules state that beginning in the fall of 1986, students entering Division I colleges and universities, must possess the following: a 2.00 grade point average on a 4.00 scale on eleven academic high school courses (three courses in English, two in mathematics, two in social sciences, and two in natural or physical sciences), and a score of 700 on the Scholastics Aptitude Test (SAT) or a score of 15 on the American College Testing (ACT) Program's examination. These requirements will affect every athlete graduating from high school who plans to attend and play for a Division I school. This ruling by NCAA has resulted in many of the Divison I schools threatening to withdraw from the organization. "Proposition 48" is the product of the American Council

on Education. A select committee of the NCAA composed of university presidents concerned with the credibility of academic requirements for the student-athlete urged passage of "Proposition 48." The President's Commission did not include any presidents from predominantly black institutions and, though the new rules were adopted, presidents and athletic officials of these schools have attacked the actions of the NCAA for adopting such an "unjust" proposal (Crowl, 1983). As Joseph B. Johnson, president of Grambling State University stated, "The proposal blames the victim for the problem" (Crowl, 1983). This belief was also stated by Frederick S. Humphries, president of Tennessee State University (Vance & Biemuller, 1983). Johnson and Humphries are referring to the high number of black athletes that are reared in economically and culturally deprived environments, resulting in their lack of prior experiences and knowledge when entering school. This lack of knowledge and experiences prohibits the student from progressing at a reasonable rate or attaining the same level of academic performance as his white male counterpart (Crowl, 1983; Vance & Biemuller, 1983).

The use of standardized test results is also a reason for many black university presidents to

challenge the proposal. Many feel that the tests have not been proven to be reliable predictors of success in college and many consider them to be culturally biased. Edward B. Fort, chancellor of North Carolina A & T University, stressed this point when he addressed the NCAA during their January 1983 meeting (Zingg, 1983). As pointed out by Jesse N. Stone, president of Southern University, the average combined score for the black student on the SAT nationally is 707, which is only seven points above the new rules cutoff on the SAT (Crowl, 1983; Zingg, 1983). Though these rules are too fresh to have been challenged in the courts, the use of standardized test scores and their subsequent effect on admission policies will provide possible litigation challenges to "Proposition 48."

The NCAA sponsored a study to determine the effects of the standardized test portion of "Proposition 48." The study's findings were released September 5, 1984. The study, conducted by Advanced Technology, Inc., analyzed the academic records of 16,000 freshmen who received full or partial athletic scholarships in 1977 and 1982 at 206 of the existing 276 institutions comprising Division I. Though fifty-four percent (54%) of the male, black athletes enrolled in 1977 graduated from their prospective

institutions, sixty-nine percent (69%) would not have qualified to play under the new play eligibility requirements when standardized test scores were included in the data (Advanced Technology, 1984; Farrell, 1984). Interestingly, the study also determined that athletes graduate at about the same rate as non-athletes. This finding supports previous studies on persistence to graduation for institutions of higher learning (Knoell, 1964; Larsen, 1973; Summerskill, 1962). Since the NCAA study was to analyze the impact of "Proposition 48" on athletic participation, another factor reviewed was the eleven-course-core included in the new play eligibility requirements. This factor was found to correlate highly with college graduation as a predictor though many of the athletes included in the study did not take enough of these courses or have grades high enough to have been eligible for play (Farrell, 1984). These findings and the future of "Proposition 48" will be discussed at the October meeting of the NCAA President's Commission and at subsequent NCAA meetings prior to August 1986 (Monaghan, 1984).

A subsequent revision by the NCAA passed in a later meeting was the "satisfactory progress" rule. This bylaw revision requires students already in

college within the 277 Division I institutions to show "satisfactory progress" in a program leading to a degree (Manual of NCAA, 1983). This amendment states that all athletes within Division I institutions must declare a major and apply for candidacy by the end of their sophomore year or by the end of their fourth semester. Their declaration also requires that all course work taken by the student after that point must apply to that major (Weatherford, S.E.L. personal communication, June 12, 1984). All revised bylaws pertaining to satisfactory progress govern all student-athletes enrolled in Division I institutions at the end of the spring 1984 semester took effect August 1, 1984. It was, therefore, necessary for those student-athletes who had finished their fourth semester and had not declared a major to do so before they could have registered for coursework for the fall 1984 semester.

Though these rules and regulations have been adopted and publicized by the media, many high school principals report no steps have been taken to inform their students of the changes. A survey conducted by three Clemson University faculty concluded that the NCA has not fulfilled its obligation to inform the high school principals of the requirements (Vance, 1984).

Their survey showed that seventy-nine percent (79%) of those polled knew of the rules change, but only forty-nine percent (49%) had taken measures to inform their athletes (Vance, 1984). The principals surveyed also stated a disapproval of the rule's reliance on standardized test scores. The Clemson professors also attempted to survey the 277 Division I institutions to determine the impact on their current programs. Only sixty schools, twenty-two percent (22%), responded to the survey. Though the NCAA denies any interference, the Clemson professors accused the NCAA of discouraging its members from participating in the survey (Vance, 1984).

The passage of new rules and regulations concerning athletics and academics implies that problems exist in preparing student-athletes for academic endeavors. The new regulations indicate that research into the factors that correlate more highly with academic success for freshman athletes is needed. Given that freshman athletes receive the same instruction within diverse curricula at a four-year university belonging to the NCAA, it is expected that certain factors can be identified as predictors for academic success for college freshman football players. It is felt that those factors that have previously been

identified as predictors for success for non-athletes will vary from those identified for the freshman football players. Secondly, it is believed academic success, if measured by by each semester's grade point average and cumulative grade point average (GPA), can be identified prior to the athlete's enrollment in courses at the four-year institution.

Method

Subjects

The subjects were fifty-nine (59) first semester freshmen from the years 1980 and 1983 at a four-year NCAA member, southern institution. All subjects had been admitted to the university and were considered football athletes based on prior assessment of their athletic abilities by athletic-football officials and personnel. All subjects were, however, not eligible for practice or play as three subjects' high school GPAs were less than the required 2.00 on a 4.00 scale. The subjects were enrolled in a variety of courses which included developmental reading, developmental English, geography, military science, English composition, college algebra, history, physical science, geology, business management, improvement of study, speech communication, and other diverse courses. Developmental reading and developmental English were

not course offerings available to the 1980 subjects. Subjects' ACT composite scores ranged from nine (9) to twenty-six (26) and high school grade point averages from 1.38 to 4.00 on a 4.00 scale. Race proportions were relatively equal in that forty-seven percent (47%) of the subjects were black athletes and fifty-three percent (53%) of the subjects were white athletes.

Procedure

There is a general concensus supported by research about the strength of the relationship of high school grade point average to success in college. There is also research to support the relationship between ACT scores and success in college (American College Testing, 1976). It was, therefore, the intent of these researchers to identify other factors that would prove significant predictors for academic success by the collegiate athlete. Numerous variables were identified as possible predictors for college success. They included: ACT English score, ACT mathematics score, ACT social science score, ACT natural science score, ACT composite score, race, scholarship versus nonscholarship, playing position (back or lineman), eligibility versus ineligibility, team membership (offensive or defensive), number of games in which athlete played, the number of semesters to prove

proficiency in a developmental reading course, and the number of semesters enrolled in a study improvement course. Data were provided by the athletic advisor's office, the office of institutional research, and the sports information office of the university. To assess the relationship between fall semester grade point average, spring semester grade point average, cumulative grade point average, and the selected predictor variables, multiple regression was used. All the analyses were completed by using standard computer analysis procedures from the Statistical Package for the Social Sciences (SPSS) (Nie, Null, Jenkins, Steinbrenner, & Brent, 1975).

Results

In as much as analyses of the data indicated which variables proved most significant ($p<.05$), insignificant variables were deleted in order to provide a more logical number of variables to analyze in relation to the size of the sample. Those variables that were insignificant were as follows: ACT English score, ACT composite score, high school grade point average, and team membership. Scholarship and position proved to be significant predictors yet provided no additional validation to the study and were therefore deleted also.

The means and standard deviations of the eight predictors analyzed and the three criterion variables are presented in Table 1. The most significant

---

Insert Table 1 about here

---

predictor for academic success the fall semester for the freshman athlete was the athlete's eligibility. The NCAA currently defines eligibility as a 2.00 high school GPA on a 4.00 scale. Therefore, it was unnecessary to include high school GPA, found an insignificant predictor, as a predictive variable in this study. Six of the eight predictors analyzed (eligibility, race, the number of games in which the athlete played, ACT social science score, ACT natural science score, and the number of semesters enrolled in a study improvement course) were significantly correlated to fall semester GPA ($F = 2.57$, $df = 6,52$, $p<.05$). Correlations between fall GPA and these predictors account for twenty-three percent (23%) of the variability ($R^2 = .229$). The most significant predictors for spring semester GPA for the subjects were ACT mathematics score, number of semesters enrolled in a study improvement course, race, ACT natural science score, number of semesters to prove

proficiency in a developmental reading course, eligibility, and ACT social science score ($F = 2.27$, $df = 7,51$, $p<.05$). These seven predictors accounted for twenty-four percent (24%) of the variability within subjects ($R^2 = .238$). The multiple correlation between the spring semester GPA and the various predictive variables was higher than the multiple correlation between the same predictors and fall GPA. Though earlier research (Ballantine, 1981) indicates that athletes academically perform at a higher level once the season is over, athletes in this study had a lower mean grade point average for the spring semester than for the fall semester.

Seven predictive variables showed a significant correlation with cumulative GPA. Race, the number of games in which the athlete played, the number of semesters to prove proficiency in a developmental reading course, ACT mathematics score, ACT natural science score, the number of semesters enrolled in a study improvement course, and eligibility were significant predictors ($F = 2.31$, $df = 7,51$, $p<.05$). The regression analysis indicated that these seven predictors yielded an R^2 of .241, indicating twenty-four percent (24%) of the variability accounted for. The regression beta weights of the predictors on

all three criterion variables are presented in Table 2.

Insert Table 2 about here

Limitations of the Study

This study was delimited to those subjects who had been recruited as football athletes and had enrolled at a four-year NCAA member, southern institution, assumed to be typical of numerous such institutions within Division I of the NCAA. The sample (N = 59), drawn from two separate freshman years, markedly limits the conclusions and generalizations that can be made from this research. However, the athletes at this institution were assumed to be representative of athletes attending the 277 Division I institutions. Therefore, the findings are still considered to be of utility and interest to other NCAA Division I institutions, academic advisors for athletic programs, athletic/football programs, and educators of student athletes.

Conclusions and Implications

The results of this research tend to indicate that the predictive variable of race, the number of games in which an athlete played, eligibility, progress in a developmental reading course, progress in a study

improvement course, ACT mathematics score, ACT natural science score, and the ACT social science score are significant predictors for academic success at a four-year institution for the college athlete. In this study, race was a significant predictor of grade point average, possibly due to the significant difference between black athletes and white athletes on all variables utilized, except fall GPA and the number of semesters enrolled in a study improvement course. This finding seems to agree with those of the recent NCAA study completed in September 1984 (Farrell, 1984), and statements made by Joseph B. Johnson (Crowl, 1983; Zingg, 1983) and Frederick S. Humphries (Vance & Biemuller, 1983).

It would appear likely that if developmental reading and study improvement courses were available in in which the athlete could enroll, these courses in conjunction with the monitoring of the number of games in which the athlete participates would provide institutions with means of promoting academic success for the freshman athlete. It is inappropriate to conclude that any one of the predictive variables would singularly lead to academic success or that these variables are the only valid predictors for academic success by the freshman football athlete.

The significant predictive value of these relationships seems to warrant additional investigation with larger samples in a broader range of institutions. In addition, more extensive research is recommended in regard to all predictive variables but particularly to the progress in developmental reading courses and study improvement courses. Prediction of the academic success of the freshman college athlete will prove necessary as the NCAA and other college athletic associations demand more stringent academic requirements upon the athlete and the institutions which they attend.

References

Advanced Technology, Inc. (1984). Study of freshman eligibility standards (Social Sciences Division). Reston, VA: Author.

American College Testing Program. (1976). College student profiles: Norms for the ACT assessment. (Research and Development Division). Iowa City: Author.

Ballantine, R. J. (1981). What research says: About the correlation between athletic participation and academic achievement. (Report No. SP-022-877). (ERIC Document Reproduction Service No. ED 233 994).

Crowl, J. A. (1983, January 19). NCAA votes stiffer academic requirements for participants in intercollegiate sports. The Chronicle of Higher Education, pp. 1, 20.

Farrell, C. S. (1984, September 5). Sport rule will bar able blacks, NCAA study says. The Chronicle of Higher Education, pp. 1, 31.

Knoell, D. (1964). Needed research on college dropouts. In J. R. Montgomery (Proj. Dir.), Proceedings of research conference on college dropouts. Knoxville, TN: University of Tennessee Press.

Larsen, S W. (1973). A study of the academic achievement of athletes at the University of Tennessee, Knoxville. Volume XIV, Number 5. (Report No. HE-005-880). Knoxville, TN: University of Tennessee, Office of Institutional Research. (ERIC Document Reproduction Service No. ED 095 803).

Manual of the National Collegiate Athletic Association. (1984). Mission, KS: National Collegiate Athletic Association, pp. 89-91.

Monaghan, P. (1984, July 18). NCAA presidents' commission meets, sets agenda for future discussion. The Chronicle of Higher Education, p. 22.

National Commission on Excellence in Education. (1983). A Nation at Risk. Washington, DC: Department of Education.

Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., & Brent, D. H. (1975). Statistical Package for the Social Sciences. New York: McGraw-Hill.

Summerskill, J. (1962). Dropouts from college. In N. Sanford (Ed.). The American College. New York: Wiley.

Vance, N. S. (1984, February 29). Schools found not telling athletes about athletic rules. The Chronicle of Higher Education, pp. 23-24.

Vance, N. S. & Biemuller, L. (1983, December 7). Academic standards for athletes still controversial. The Chronicle of Higher Education, p. 27, 29.

Zingg, P. J. (1983). No simple solution: Proposition 48 and the possibilities of reform. Educational Record, 64(3), 6-12.

Table 1

Descriptive Statistics

(N = 59)

Variable	Mean	Standard Deviation
Number of games played	1.98	3.88
Number semesters		
Developmental Reading	.51	.92
Study Improvement	.22	.62
ACT		
Mathematics	14.47	7.82
Social Science	13.31	5.88
Natural Science	17.14	5.96
GPA		
Fall	2.52	.63
Spring	1.97	.78
Cumulative	2.20	.61

Table 2

Beta Weights

Variable	Fall	Spring	Cumulative
Eligibility	.304	-.060	.089
Race	-.299	-.262	-.313
No. games played	.204	.023	.125
No. semesters			
Developmental Reading	---	-.186	-.144
Study Improvement	.081	.147	.127
ACT			
Mathematics	---	.358	.299
Social Science	.385	-.058	.075
Natural Science	-.345	-.253	-.288